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PATENT APPLICATION

ATTORNEY DOCKET NO. 200302250-1IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Sally Elaine Saffer

Confirmation No.: 6758

Application No.: 10/068,466

Examiner: Belix M. Ortiz

Filing Date: February 5, 2002

Group Art Unit: 2164

Title: Operational Data Source

Mail Stop Appeal Brief-Patents  
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PO Box 1450  
Alexandria, VA 22313-1450TRANSMITTAL OF APPEAL BRIEFTransmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on October 23, 2006.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:☐ 1st Month  
\$120☐ 2nd Month  
\$450☐ 3rd Month  
\$1020☐ 4th Month  
\$1590☐ The extension fee has already been filed in this application.☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of \$ 500 . At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.26. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.18 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

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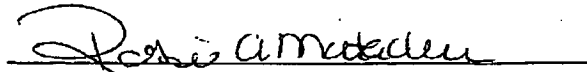
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sally Elaine Saffer  
Serial No: 10/068,466  
Filed: February 5, 2002  
For: Operational Data Store

Examiner: Belix M. Ortiz  
Art Unit: 2164

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APPELLANTS' BRIEF ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-4, 8-22, 29-35, 39-53, 60-63, 65-67, and 69-73 as set forth in the Final Office Action of September 06, 2006.

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**REAL PARTY IN INTEREST**

The real party in interest is Hewlett-Packard Development Company, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas.

**RELATED APPEALS AND INTERFERENCES**

Applicant's attorney knows of no related pending appeals or interferences.

**STATUS OF CLAIMS**

Claims 1-73 are pending in this application.

Claims 1-4, 8-22, 29-35, 39-53, 60-63, 65-67, and 69-73 stand rejected and are the subject of this appeal. More specifically:

- claims 1-4, 8-13, 29-35, 39-44, 62-63, and 66-67 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai (U.S. Pat. No. 5,717,924) in view of Goldring (U.S. Pat. No. 5,553,279);
- claims 14-22 and 45-53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Goldring and Kessler et al. (U.S. Pat. No. 5,761,706);

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- claims 60-61, 65, and 69 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Vandivier, III (U.S. Pat. No. 5,978,771); and
- claims 70-73 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Battas et al. (U.S. Pat. No. 6,757,706) in view of Goldring.

Claims 5-7, 23-28, 36-38, 54-59, 64, and 68 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 5-7, 23-28, 36-38, 54-59, 64, and 68, therefore, are not the subject of this appeal.

#### STATUS OF AMENDMENTS

No after-final amendments have been filed in this case.

#### SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5) comprising an insert table (FIG. 1, element 32; p. 6, lines 1-5, 22-25) for storing new data; a history table (FIG. 1, element 30; p. 6, lines 1-5, 22-25) for storing historical data; and transfer logic (FIGS. 3A and 5, element 56; p. 6, lines 22-25; p. 7, lines 27-29, p. 8,

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lines 23-25; p. 14, lines 19-21) for periodically transferring new data from the insert table to the history table.

Independent claim 32 is directed to a method for maintaining an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5), the method comprising inserting new data into an insert table (FIG. 1, element 32; p. 6, lines 1-5, 22-25; FIG. 5, element 122; p. 8, lines 23-25); and periodically transferring data from the insert table to a history table (FIGS. 3A and 5, element 56; p. 6, lines 22-25; p. 7, lines 27-29, p. 8, lines 23-25; p. 14, lines 19-21).

Independent claim 60 is directed to a method for operating an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5), the method comprising creating a new partition in a composite-partitioned history table (FIG. 7, step 206; p. 15, lines 17-19); creating a partitioned temporary table (FIG. 7, step 210; p. 15, lines 22-28); filling the temporary table with data from an insert table (FIG. 7, step 210; p. 15, lines 22-28); exchanging the temporary table with the new partition (FIG. 7, step 214; p. 16, lines 4-7); and receiving a query and applying the query to both the history table and the insert table (p. 4, lines 8-9; p. 6, line 26 - p. 7, line 10; FIG. 2, elements 58, 60).

Independent claim 62 is directed to an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5) comprising means

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for inserting new data into an insert table (FIG. 1, element 32; p. 6, lines 1-5, 22-25; FIG. 5, element 122; p. 8, lines 23-25); means for periodically transferring data from the insert table to a history table (FIGS. 3A and 5, element 56; p. 6, lines 22-25; p. 7, lines 27-29, p. 8, lines 23-25; p. 14, lines 19-21); and means for applying a database query to both the history table and the insert table (p. 4, lines 8-9; p. 6, line 26 - p. 7, line 10; FIG. 2, elements 58, 60).

Independent claim 65 is directed to an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5) comprising means for creating a new partition in a composite-partitioned history table (FIG. 7, step 206; p. 15, lines 17-19); means for creating a partitioned temporary table (FIG. 7, step 210; p. 15, lines 22-28); means for filling the temporary table with data from an insert table (FIG. 7, step 210; p. 15, lines 22-28); means for exchanging the temporary table with the new partition (FIG. 7, step 214; p. 16, lines 4-7); and means for receiving a database query and applying said query to both the history table and the insert table (FIG. 7, step 214; p. 16, lines 4-7).

Independent claim 66 is directed to a computer program product for operating an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5), the computer program product comprising a computer usable medium having computing reading code thereon (p. 18,

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lines 11-19); including program code which: inserts new data into an insert table (FIG. 1, element 32; p. 6, lines 1-5, 22-25; FIG. 5, element 122; p. 8, lines 23-25); periodically transfers data from the insert table to a history table (FIGS. 3A and 5, element 56; p. 6, lines 22-25; p. 7, lines 27-29, p. 8, lines 23-25; p. 14, lines 19-21); and applies a database query to both the history table and the insert table (p. 4, lines 8-9; p. 6, line 26 - p. 7, line 10; FIG. 2, elements 58, 60).

Independent claim 69 is directed to a computer program product for operating an operational data store (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5), the computer program product comprising a computer usable medium having computer readable code thereon (p. 18, lines 11-19), including program code which: creates a new partition in a composite-partitioned history table (FIG. 7, step 206; p. 15, lines 17-19); creates a partitioned temporary table (FIG. 7, step 210; p. 15, lines 22-28); fills the temporary table with data from an insert table (FIG. 7, step 210; p. 15, lines 22-28); exchanges the temporary table with the new partition (FIG. 7, step 214; p. 16, lines 4-7); and receives queries and applies said queries to both the history table and the insert table (FIG. 7, step 214; p. 16, lines 4-7).

Independent claim 70 is directed to a system for producing a desired level of service in a mixed workload environment, the system

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comprising: a high-speed insert operational data store (ODS) (FIG. 1, element 24; p. 5, line 18 - p. 6, line 5); a throttler for throttling selected transactions to the ODS (FIG. 2, element 44; p. 9, line 4 - p. 11, line 3); and an aggregator for accumulating transactions into batches and inserting each of the batches into the ODS using a single database transaction per batch (FIG. 2, lines 48-50; p. 11, line 25 - p. 13, line 24).

Independent claim 72 is directed to a method for producing a desired level of service in a mixed workload environment, the method comprising: insert transactions into an operational data store (ODS) at a high-speed (FIG. 1, element 32; p. 6, lines 1-5, 22-25; FIG. 5, element 122; p. 8, lines 23-25); throttling selected transactions to the ODS (FIG. 2, element 44; p. 9, line 4 - p. 11, line 3); accumulating transactions into batches (FIG. 2, lines 48-50; p. 11, line 25 - p. 13, line 24); and inserting each of the batches into the ODS using a single database transaction per batch (FIG. 2, lines 48-50; p. 11, line 25 - p. 13, line 24).

**GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL**

The grounds of rejection for review are:

- (1) the rejection of claims 1-4, 8-13, 29-35, 39-44, 62-63, and 66-67 under 35 U.S.C. § 103(a) as being



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- unpatentable over Kawai (U.S. Pat. No. 5,717,924) in view of Goldring (U.S. Pat. No. 5,553,279);
- (2) the rejection of claims 14-22 and 45-53 under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Goldring and Kessler et al. (U.S. Pat. No. 5,761,706);
- (3) the rejection of claims 60-61, 65, and 69 under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Vandivier, III (U.S. Pat. No. 5,978,771); and
- (4) the rejection of claims 70-73 under 35 U.S.C. § 103(a) as being unpatentable over Battas et al. (U.S. Pat. No. 6,757,706) in view of Goldring.

#### ARGUMENT

#### Rejection of Claims 1-4, 8-13, 29-35, 39-44, 62-63, and 66-67 under 35 U.S.C. § 103(a) (Kawai in view of Goldring)

Claims 1-4, 8-13, 29-35, 39-44, 62-63, and 66-67 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai (U.S. Pat. No. 5,717,924) in view of Goldring (U.S. Pat. No. 5,553,279). More specifically, the Final Office Action states that Kawai teaches an operational data store (referring to the Abstract; col. 1, lines 8-10; and col. 3, lines 29-33), comprising an insert table for storing

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new data (referring to FIG. 10A, step 320). The Final Office Action acknowledges that Kawai does not teach either "a history table for storing historical data" or "transfer logic for periodically transferring new data from the insert table to the history table," as expressly recited by claim 1 of the present application.

The Office Action asserts, however, that Goldring teaches this limitation of claim 1, and that it would have been obvious to modify the teachings of Kawai using the teachings of Goldring to produce an operational data store satisfying all of the limitations of claim 1. More specifically, the Office Action states that the "consistent change data table" of Goldring reads on the "history table" of claim 1, and that Goldring teaches transfer logic for periodically transferring new data from an insert table to the consistent change data table (referring to col. 6, lines 33-40; col. 6, lines 62-67; col. 7, lines 1-10; and col. 8, lines 33-40 of Goldring).

Applicant respectfully disagrees with this interpretation of Goldring and therefore traverses the rejection of claim 1 over the combination of Kawai and Goldring. Even if it is assumed for purposes of argument that Goldring teaches *copying* data from an insert table to a history table, Goldring does not teach or suggest *transferring* data from an insert table to a history table, as expressly required by claim 1. In fact, Goldring teaches away from *transferring* data.

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When data are copied from a source A to a destination B, the data at source A remain in source A. Therefore, when the copy operation is complete, there are two copies of the data: at the source A and at the destination B. When data are transferred from a source A to a destination B, the data at source A do not remain at source A. Therefore, when the transfer operation is complete, there is only one copy of the data: at the destination B.

This meaning of "transfer" is supported by the specification of the present application. For example, the specification states that "a table exchange process 56 . . . from time to time moves data from the insert table 32 to the historical table 30 by exchanging pointers to partitions and sub-partitions of the two tables 30, 32 to sustain a high transaction insert rate" (p. 6, lines 22-25) (emphasis added). If the data are transferred by exchanging pointers between the insert table and the history table, then the data originally in the insert table are no longer in the insert table when the transfer (exchange) operation is complete.

In contrast, Goldring discloses techniques for copying data from an activity log into a consistent change data table, without removing the data from the activity log. As a result, there are two copies of the data: one in the activity log and one in the consistent change data table. Therefore, even if the consistent change data table is assumed for purposes of argument to be a

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"history table" within the meaning of claim 1, Goldring does not teach "transferring" data into the consistent change data table.

For example, Goldring discloses:

a computer system that receives sequences of updates to source data tables in a database and records them into an activity log for later retrieval, generates a consistent change data table from the retrieved activity log such that the consistent change data table contains sufficient change information to refresh copies of the source data through multiple generations of target copies by consulting the consistent change data table and applying the table entries to the last prior refreshed source table. The consistent change data table contains committed change operations retrieved from the activity log in the order in which they were committed, beginning with a time no earlier than the last prior refresh. (Col. 2, line 66 - col. 3, line 11.)

Goldring does not teach or suggest removing data from the source data tables or the activity log. In other words, the data are not *transferred* from the source data tables to the activity log, or from the activity log to the consistent change data table, but only copied.

In fact, transferring data in the system disclosed by Goldring would make the system inoperable. The purpose of the activity log

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is to record changes that have been made to source data tables in a database, so that such data may be recovered in the event of a system failure or equipment malfunction (col. 1, lines 45-57). For example, if a new record is inserted into a source data table, the new record is recorded in the activity log. As a result, the activity log contains a copy of the data in the new record. Goldring discloses no reason to instead transfer data from the new record to the activity log, such as by deleting the new record from the source data table after copying it to the activity log. In fact, performing such a transfer would corrupt the source data table and make it inoperable. Goldring neither discloses nor suggests transferring data (from either the source data table or the activity log) to the consistent change data table for at least the same reason.

In summary, even if the teachings of Kawai were modified by the teachings of Goldring, the combination thereof would not read on an express limitation of claim 1, namely "transfer logic for periodically transferring new data from the insert table to the history table." Claim 1, therefore, patentably distinguishes over the combination of Kawai and Goldring. Claims 2-4, 8-13, and 29-31 depend, either directly or indirectly, from claim 1, and therefore patentably distinguish over the combination of Kawai and Goldring for at least the same reason.

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Claim 32 is a method claim that includes substantially the same relevant limitation as claim 1, and which therefore patentably distinguishes over the combination of Kawai and Goldring for at least the same reason. Claims 33-35 and 39-44 depend, either directly or indirectly, from claim 32, and therefore patentably distinguish over the combination of Kawai and Goldring for at least the same reason.

Claim 62 is directed to an operational data store which includes substantially the same relevant limitation as claim 1, and which therefore patentably distinguishes over the combination of Kawai and Goldring for at least the same reason. Claim 63 depends from claim 62, and therefore patentably distinguishes over the combination of Kawai and Goldring for at least the same reason.

Claim 66 is directed to a computer program product for operating an operational data store, which includes substantially the same relevant limitation as claim 1, and which therefore patentably distinguishes over the combination of Kawai and Goldring for at least the same reason. Claim 67 depends from claim 66, and therefore patentably distinguishes over the combination of Kawai and Goldring for at least the same reason.

In conclusion, the rejection of claims 1-4, 8-13, 29-35, 39-44, 62-63, and 66-67 as being unpatentable over Kawai in view of Goldring should be reversed.

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Rejection of Claims 14-22 and 45-53 under 35 U.S.C. § 103(a)(Kawai in view of Goldring and Kessler)

Claims 14-22 and 45-53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Goldring and Kessler et al. (U.S. Pat. No. 5,761,706). Claims 14-22 and 45-53 are dependent claims which depend from independent claims discussed above and therefore include at least the same limitations. For the reasons described above, neither Kawai nor Goldring, either singly or in combination, teaches or suggests all of the limitations of the independent claims discussed above. The Final Office Action fails to point out how Kessler teaches or suggests any of these limitations, and Kessler does not in fact teach or suggest any of these limitations. Therefore, claims 14-22 and 45-53 patentably distinguish over the combination of Kawai, Goldring, and Kessler for at least the same reasons provided above.

In conclusion, the rejection of claims 14-22 and 45-53 over the combination of Kawai, Goldring, and Kessler should be reversed.

Rejection of Claims 60-61, 65, and 69 (Kawai in view of Vandivier)

With respect to claims 60, the Final Office Action states that Kawai teaches a method for operating an operational data store comprising creating a partitioned temporary table (referring to FIG. 10B, step 332); filling the temporary table with data from an insert

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table (referring to FIG. 10B, step 336); exchanging the temporary table with the new partition (referring to FIG. 10B, step 348); and receiving a query and applying the query to both the history table and the insert table (referring to col. 2, lines 19-21 and col. 4, lines 29-42).

The Final Office Action acknowledges that Kawai does not teach "creating a new partition in a composite-partitioned history table," as expressly required by claim 60 of the present application. The Office Action asserts, however, that Vandivier, III (U.S. Pat. No. 5,978,771) teaches this limitation of claim 60 (referring to col. 11, lines 20-27; and col. 12, lines 19-23).

Vandivier does not, however, teach or suggest "creating a new partition in a composite-partitioned history table." Although Vandivier uses the term "partition table," Vandivier does not use this term to refer to a table that is "composite-partitioned." Furthermore, Vandivier does not teach or suggest "creating a new partition" in any kind of table. For at least these reasons, Vandivier does not teach or suggest the relevant express limitation of claim 60.

Support for this express element of claim 60 is provided, for example, at page 15, lines 18-19 of the present application, which states that in step 206 of FIG. 6, "a new partition is created in the historical table, partitioned by range and sub-partitioned by



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the number of database server instances." A partition that is sub-partitioned in this manner is an example of a "composite-partitioned table" as recited in claim 60.

More generally, the act of "partitioning" involves decomposing a database table into smaller pieces called "partitions."<sup>1</sup> "Composite partitioning" involves subdividing partitions into subpartitions. Vandivier does not teach or suggest the use of composite partitioning, or the use of any table which is "composite-partitioned," as recited in claim 60. Instead, the "partition tables" described by Vandivier are called "partition tables" not because the tables themselves are partitioned, but rather because the tables contain information about resources (particularly natural resources used in the mining industry) that may be subdivided or "partitioned." Furthermore, even if it is assumed for purposes of argument that the "partition tables" disclosed by Vandivier are partitioned tables, Vandivier does not teach or suggest that the "partition tables" may be composite-partitioned, as expressly required by claim 60. Vandivier, therefore, fails to teach or suggest an express limitation of claim 60, which therefore patentably distinguishes over Kawai.

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<sup>1</sup> See, e.g., Microsoft Computer Dictionary 392 (5th ed. 2002) (defining "partition" as "a subset of a database table or file").

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In summary, neither Kawai nor Vandivier, either individually or in combination, teaches an express element of claim 60. Claim 60, therefore, patentably distinguishes over the combination of Kawai and Vandivier.

Claim 61 depends from claim 60 and therefore patentably distinguishes over the combination of Kawai and Vandivier for at least the same reason. Claims 65 and 69 include the same relevant limitations as claim 60 and therefore patentably distinguish over the combination of Kawai and Vandivier for at least the same reason.

In conclusion, the rejection of claims 60-61, 65, and 69 as being unpatentable over Kawai in view of Vandivier should be reversed.

Rejection of Claims 70-73 under 35 U.S.C. § 103(a)

(Battas in view of Goldring)

Claims 70-73 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Battas et al. (U.S. Pat. No. 6,757,706) in view of Goldring (U.S. Pat. 5,553,279). With respect to claim 70, the Final Office Action states that Battas teaches a system for producing a desired level of service in a mixed workload environment (referring to col. 20, lines 31-34), comprising a high-speed insert operational data store (ODS) (referring to col. 15, lines 34-37); and an aggregator for accumulating transactions into batches and inserting

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each of the batches into the ODS using a single database transaction per batch (referring to col. 15, lines 41-46).

The Final Office Action acknowledges that Battas does not teach "a throttler for throttling selected transactions to the ODS," as expressly required by claim 70 of the present application. The Office Action asserts, however, that Goldring teaches this limitation of claim 70, and that it would have been obvious to modify the teachings of Battas using the teachings of Goldring to produce a system satisfying all of the limitations of claim 70. More specifically, the Office Action states that col. 7, lines 10-15 of Goldring teaches a throttler for throttling selecting transactions to an ODS.

Goldring does not, however, teach or suggest "a throttler for throttling selected transactions to the ODS," as expressly recited by claim 70. Support for this limitation may be found in the present application, for example, at p. 4, lines 16-20; p. 6, lines 16-17; p. 7, lines 24-25; p. 8, lines 1-6; p. 9, lines 4-28; and p. 10, lines 1-24. For example, the present application provides one example of throttling selected transactions at p. 98, lines 7-10, stating that "[t]o achieve a desired level of service, different 'classes' of transactions may be independently throttled. That is, to provide the desired performance of the high-speed inserts,

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*queries may need to be slowed, so that the higher-priority insert transactions can execute at full speed" (emphasis added).*

To support the rejection of claims 70-73, the Final Office Action points to col. 7, lines 10-15 of Goldring, which merely states that "the rows in the Consistent\_Change\_Data table will provide a listing of the update transactions in the order in which they were committed, sequence information used to order conflicting updates within a single transaction, and operational information used to specify whether a change was an insert, update, or delete operation." In other words, Goldring merely describes recording information about transactions that have been performed. Goldring does not describe slowing the processing of certain transactions, or performing any other kind of throttling.

Claim 70 of the present application therefore patentably distinguishes over the combination of Battas and Goldring. Claim 72 includes the same relevant limitations as claim 70 and therefore patentably distinguishes over the combination of Battas and Goldring for at least the same reasons. Claims 71 and 73 depend from claims 70 and 72, respectively, and therefore patentably distinguish over the combination of Battas and Goldring for at least the same reason.

In conclusion, the rejection of claims 70-73 as being unpatentable over Battas in view of Goldring should be reversed.

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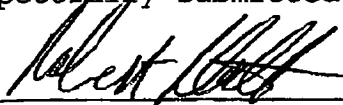
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CONCLUSIONS

The Examiner's rejections of claims 1-4, 8-22, 29-35, 39-53, 60-63, 65-67, and 69-73 should be reversed for the reasons stated above.

If this Brief is not considered timely filed and if a request for extension of time is otherwise absent, applicant hereby requests any extension of time. Please charge any fees or make any credits, to Deposit Account No. 08-2025.

Respectfully submitted,



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APPENDIX A: CLAIMS ON APPEAL

Claim 1. An operational data store, comprising:

an insert table for storing new data;

a history table for storing historical data; and

transfer logic for periodically transferring new data from the insert table to the history table.

Claim 2. The operational data store of Claim 1, wherein the history table is partitioned.

Claim 3. The operational data store of Claim 2, wherein the history table is partitioned by range.

Claim 4. The operational data store of Claim 2, wherein each partition is further sub-partitioned.

Claim 8. The operational data store of Claim 1, the transfer logic comprising:

a secondary table;

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fill logic for filling the secondary table with selected data from the insert table; and

secondary transfer logic for transferring the secondary table into the history table, the selected data thereby being transferred into the history table.

Claim 9. The operational data store of Claim 8, wherein the history table has an indexing scheme, the secondary transfer logic further comprising:

indexing logic for applying the history table indexing scheme to the secondary table.

Claim 10. The operational data store of Claim 9, wherein the indexing logic applies the history table indexing scheme to the secondary table prior to transferring the secondary table into the history table.

Claim 11. The operational data store of Claim 8, the secondary transfer logic further comprising:

table logic for creating a new partition the history table, the new partition for swapping with the secondary table.

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Claim 12. The operational data store of Claim 11, wherein the secondary transfer logic swaps the secondary table and the new partition by exchanging respective pointers.

Claim 13. The operational data store of Claim 1, further comprising:

a query engine for applying a database query to both the history table and the insert table.

Claim 14. The operational data store of Claim 1, further comprising:

an aggregation buffer for accumulating new data; and

an aggregator for batching the accumulated data and transferring the batched data into the insert table with a single database access.

Claim 15. The operational data store of Claim 14, wherein the aggregator transfers a batch of new data into the insert table when the batch surpasses a maximum size.

Claim 16. The operational data store of Claim 15, wherein batch size is measured according to a number data bytes.



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Claim 17. The operational data store of Claim 15, wherein batch size is measured according to a number of records.

Claim 18. The operational data store of Claim 15, wherein the maximum size is configurable.

Claim 19. The operational data store of Claim 14, wherein the aggregator transfers batches of new data into the insert table at regular intervals, defined by a given period.

Claim 20. The operational data store of Claim 19, wherein the period is configurable.

Claim 21. The operational data store of Claim 14, wherein the aggregator transfers batches of new data into the insert table when the aggregation buffer surpasses a given maximum buffer size.

Claim 22. The operational data store of Claim 21, wherein the maximum buffer size is configurable.

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Claim 29. The operational data store of Claim 1, wherein data from the insert table is transferred to the history table at regular intervals.

Claim 30. The operational data store of Claim 29, wherein the intervals are configurable.

Claim 31. The operational data store of Claim 29, wherein the intervals are different for different tables.

Claim 32. A method for maintaining an operational data store, comprising:

Inserting new data into an insert table;

Periodically transferring data from the insert table to a history table.

Claim 33. The method of Claim 32 further comprising:

Partitioning the history table.

Claim 34. The method of Claim 33, wherein the history table is partitioned according to range.

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Claim 35. The method of Claim 33, further comprising:  
sub-partitioning each partition.

Claim 39. The method of Claim 32, further comprising:  
creating a secondary table;  
filling the secondary table with selected data from the  
insert table; and  
transferring the secondary table into the history table,  
the selected data thereby being transferred into the history  
table.

Claim 40. The method of Claim 39, wherein the history table  
has an indexing scheme, the method further comprising:  
applying the history table indexing scheme to the  
secondary table.

Claim 41. The method of Claim 40, wherein the history table  
indexing scheme is applied to the secondary table prior to  
transferring the secondary table into the history table.

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Claim 42. The method of Claim 39, further comprising:

creating a new partition in the history table, wherein the secondary table is transferred by being swapped with the new partition.

Claim 43. The method of Claim 42, wherein the secondary table and new partition are swapped by exchanging respective pointers.

Claim 44. The method of Claim 32, further comprising:

applying a database query to both the history table and the insert table.

Claim 45. The method of Claim 32, further comprising:

aggregating new data into batches; and

inserting the batched new data into the insert table with a single database access.

Claim 46. The method of Claim 45, wherein a batch of new data is transferred into the insert table when the batch surpasses a maximum size.

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Claim 47. The method of Claim 46, wherein batch size is measured according to a number data bytes.

Claim 48. The method of Claim 46, wherein batch size is measured according to a number of records.

Claim 49. The method of Claim 46, wherein the maximum size is configurable.

Claim 50. The method of Claim 45, wherein batches of new data are transferred into the insert table at regular intervals, defined by a given period.

Claim 51. The method of Claim 50, wherein the period is configurable.

Claim 52. The method of Claim 45, further comprising:

aggregating the batches of new data in an aggregation buffer, wherein the batches are transferred into the insert table when the aggregation buffer surpasses a given maximum buffer size.

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Claim 53. The method of Claim 52, wherein the maximum buffer size is configurable.

Claim 60. A method for operating an operational data store, comprising:

creating a new partition in a composite-partitioned history table;

creating a partitioned temporary table;

filling the temporary table with data from an insert table;

exchanging the temporary table with the new partition; and

receiving a query and applying the query to both the history table and the insert table.

Claim 61. The method of claim 60, further comprising:

creating a new partition in the insert table based on values from an existing partition; and

dropping the existing partition.

Claim 62. An operational data store, comprising:

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means for inserting new data into an insert table;

means for periodically transferring data from the insert table to a history table; and

means for applying a database query to both the history table and the insert table.

Claim 63. The operational data store of Claim 62, further comprising:

means for batching new data; and

means for inserting the batched new data into the insert table with a single database access.

Claim 65. An operational data store, comprising:

means for creating a new partition in a composite-partitioned history table;

means for creating a partitioned temporary table;

means for filling the temporary table with data from an insert table;

means for exchanging the temporary table with the new partition; and

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means for receiving a database query and applying said query to both the history table and the insert table.

Claim 66. A computer program product for operating an operational data store, the computer program product comprising a computer usable medium having computing reading code thereon, including program code which:

inserts new data into an insert table;

periodically transfers data from the insert table to a history table; and

applies a database query to both the history table and the insert table.

Claim 67. The computer program product of Claim 66, wherein the program code further:

batches new data; and

inserts the batched new data into the insert table with a single database access.

Claim 69. A computer program product for operating an operational data store, the computer program product comprising a



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computer usable medium having computer readable code thereon,  
including program code which:

creates a new partition in a composite-partitioned history  
table;

creates a partitioned temporary table;

fills the temporary table with data from an insert table;

exchanges the temporary table with the new partition; and

receives queries and applies said queries to both the  
history table and the insert table.

Claim 70. A system for producing a desired level of service in  
a mixed workload environment, comprising:

a high-speed insert operational data store (ODS);

a throttler for throttling selected transactions to the  
ODS; and

an aggregator for accumulating transactions into batches  
and inserting each of the batches into the ODS using a single  
database transaction per batch.

Claim 71. The system of Claim 70, wherein the mixed workload  
environment includes at least two of archiving, OLTP queries, DSS

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queries, high-speed inserts, backup processes and  
extract/translate/load transactions.

Claim 72. A method for producing a desired level of service in  
a mixed workload environment, comprising:

insert transactions into an operational data store (ODS)  
at a high-speed;

throttling selected transactions to the ODS;

accumulating transactions into batches; and

inserting each of the batches into the ODS using a single  
database transaction per batch.

Claim 73. The method of Claim 72, wherein the mixed workload  
environment includes at least two of archiving, OLTP queries, DSS  
queries, high-speed inserts, backup processes and  
extract/translate/load transactions.

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**APPENDIX B: EVIDENCE**

No evidence is submitted in support of this Appeal Brief.

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**APPENDIX C: RELATED PROCEEDINGS**

Applicant's attorney knows of no related pending appeals or interferences.